## In the Claims

Please amend the claims as follows:

- 1. (Original) A method comprising using a motor to accelerate a control object, and measuring a plurality of distances successively traveled by the control object during said acceleration to compensate for variation in motor torque.
- 2. (Original) The method of claim 1, wherein the using step comprises applying a constant control input to accelerate the control object at a constant rate of acceleration less than a maximum rate of acceleration that can be obtained by the motor.
- 3. (Original) The method of claim 1, further comprising maintaining the control object in a substantially fixed position to determine a magnitude of bias force upon the control object prior to acceleration of the motor during the using step.
- 4. (Original) The method of claim 1, wherein the plurality of measured distances of the measuring step comprises three measured distances.
- (Original) The method of claim 1, wherein the measuring step comprises combining the plurality of measured distances to obtain a measured acceleration of the control object.
- 6. (Original) The method of claim 4, wherein the measuring step further comprises combining the measured acceleration with a nominal acceleration of the control object to determine a compensation value.
- 7. (Original) The method of claim 1, wherein the compensation value of the measuring step comprises a gain adjustment factor.

- 8. (Original) The method of claim 7, further comprising a step of subsequently accelerating the control object using the gain adjustment factor.
- 9. (Original) The method of claim 1, wherein the control object accelerated during the using step comprises an actuator of a data storage device that supports a data transducing head adjacent a recording medium.
- 10. (Original) The method of claim 1, wherein the measuring step further comprises performing a coarse adjustment routine to arrive at a first compensation value that compensates for said variations in motor torque at a first resolution, and then performing a fine adjustment routine using the first compensation value to arrive at a final compensation value at a second resolution greater than the first resolution.
- 11. (Original) An apparatus comprising a compensation circuit which measures a plurality of distances successively traveled by a control object during acceleration of said object by a motor to compensate for variation in motor torque.
- 12. (Original) The apparatus of claim 11, further comprising a control circuit which applies an input to the motor to accelerate the control object, wherein the compensation circuit determines a compensation value which is used by the control circuit to subsequently accelerate the control object.
- 13. (Original) The apparatus of claim 11, wherein the motor accelerates the control object at a constant rate of acceleration less than a maximum rate of acceleration that can be obtained by the motor.
- 14. (Original) The apparatus of claim 11, further comprising maintaining the control object in a substantially fixed position to determine a magnitude of bias force upon the control object prior to acceleration of the motor.

- 15. (Original) The apparatus of claim 11, wherein the plurality of measured distances comprises three measured distances.
- 16. (Original) The apparatus of claim 15, wherein the compensation circuit combines the three measured distances to obtain a measured acceleration of the control object.
- 17. (Original) The apparatus of claim 16, wherein the compensation circuit further combines the measured acceleration with a nominal acceleration of the control object to determine the compensation value.
- 18. (Original) The apparatus of claim 11, wherein the control object comprises an actuator of a data storage device that supports a data transducing head adjacent a recording medium.
- 19. (Original) The apparatus of claim 11, wherein the compensation value comprises a final compensation value, and wherein the compensation circuit performs a coarse adjustment routine to arrive at a first compensation value that compensates for said variations in motor torque at a first resolution, and then performs a fine adjustment routine using the first compensation value to arrive at the final compensation value at a second resolution greater than the first resolution,
- 20. (Original) An apparatus, comprising:
  - a motor which accelerates a control object; and
  - first means for determining a compensation value to compensate for variation in motor torque in relation to a plurality of measured distances successfully traveled by the control object during said acceleration.